IN THE CLAIMS

1.   (Original) A system for providing a scalable objective metric for evaluating video quality of a video image, said system comprising:

an objective metric controller capable of receiving a plurality of objective metric figures of merit from a plurality of objective metric model units, and capable of determining said scalable objective metric from said plurality of objective metric figures of merit, wherein at least one pair of said plurality of metric model units is interdependent.

2.   (Original) The system for providing a scalable objective metric for evaluating video quality of a video image as claimed in Claim 1 wherein the number of said plurality of objective metric figures of merit may vary from two to N, where N is an integer number.

3. (Original) The system for providing a scalable objective metric for evaluating video quality of a video image as claimed in Claim 1 wherein said objective metric controller is capable of determining said scalable objective metric from a correlation factor derived from a mathematical description of an interdependency of said at least one interdependent pair of said plurality of metric model units.

4. (Original) The system for providing a scalable objective metric for evaluating video quality of a video image as claimed in Claim 1 wherein said objective metric controller is capable of determining said scalable objective metric from a correlation factor derived using a neural network algorithm that employs both objective quality scores and subjective quality scores.

5. (Original) The system for providing a scalable objective metric for evaluating video quality of a video image as claimed in Claim 1 comprising a weighting unit that assigns weight values to each of a plurality of non-interdependent objective metric figures of merit by using a correlation factor, r(i), for each of said objective metric figures of merit, where each correlation factor, r(i), for an objective metric figure of merit represents how well the objective metric figure of merit evaluates video image characteristics.

6.   (Original) The system for providing a scalable objective metric for evaluating video quality of a video image as claimed in Claim 1 wherein said plurality of objective metric model units comprises at least one objective metric model unit for a desirable video image feature and at least one objective metric model unit for an undesirable video image feature.

7.   (Original) The system for providing a scalable objective metric for evaluating video quality of a video image as claimed in Claim 5 wherein said objective metric controller calculates a value, F, for said scalable objective metric from interdependent objective metrics using a mathematical description of interdependencies of said interdependent objective metrics.

8.   (Original) The system for providing a scalable objective metric for evaluating video quality of a video image as claimed in Claim 5 wherein said objective metric controller is capable of calculating a plurality of sums for a plurality of non-interdependent objective metrics where each sum, $S(r(i))$, is equal to the sum of each product of weight value, $w(i)$, and figure of merit, $f(i)$, for each of said correlation factors, $r(i)$.

9. (Original) The system for providing a scalable objective metric for evaluating video quality of a video image as claimed in Claim 8 wherein said objective metric controller is capable of obtaining said scalable objective metric by selecting said scalable objective metric to be the maximum value of the plurality of sums, $S(r(i))$, where said maximum value represents the best correlation of objective metric measurements of said video image with subjective measurements of said video image.

10. (Original) The system for providing a scalable objective metric for evaluating video quality of a video image as claimed in Claim 1 wherein said objective metric controller is capable of continually determining a new value of said scalable objective metric from new values of said plurality of objective figures of merit as said plurality of objective metric model units continually receive new video images.

11. (Original) The system for providing a scalable objective metric for evaluating video quality of a video image as claimed in Claim 1 wherein said objective metric controller is capable of adding at least one objective metric to said plurality of objective figures of merit, and wherein said objective metric controller is capable of deleting at least one objective metric from said plurality of objective figures of merit.

12. (Original) The system for providing a scalable objective metric for evaluating video quality of a video image as claimed in Claim 1 wherein said objective metric controller comprises:

a controller capable of receiving a plurality of objective metric figures of merit, $f(i)$, from a plurality of objective metric model units; and

a metric calculation algorithm contained within a memory coupled to said controller, said metric calculation algorithm containing instructions capable of being executed by said controller to determine a value, F, for said scalable objective metric from a weighted average of said plurality of objective metric figures of merit, $f(i)$, wherein at least one pair of said plurality of objective metric model units is interdependent.

13. (Original) The system for providing a scalable objective metric for evaluating video quality of a video image as claimed in Claim 1 comprising:

a plurality of objective metric model units wherein at least one pair of said plurality of objective metric model units is interdependent;

an objective metric controller capable of receiving a plurality of objective metric figures of merit from said plurality of objective metric model units, wherein said objective metric controller is capable of determining a value, F, for said scalable objective metric from a plurality of non-interdependent objective metric figures of merit, f(i), and capable of determining a value, F, for said scalable objective metric from at least two interdependent objective metrics, wherein said value F represents an objective metric that represents a maximum level of correlation of objective metric measurements of video quality and subjective measurements of video quality.

14. (Original) A method for providing a scalable objective metric for evaluating video quality of a video image comprising the steps of:

receiving in an objective metric controller a plurality of objective metric figures of merit from a plurality of objective metric model units wherein at least one pair of said plurality of objective metric model units is interdependent; and

determining said scalable objective metric from said plurality of said objective metric figures of merit.

15. (Original) The method for providing a scalable objective metric for evaluating video quality of a video image as claimed in Claim 14 wherein the step of determining said scalable objective metric from said plurality of said objective metric figures of merit comprises the step of:

determining said scalable objective metric from a correlation factor derived from a mathematical description of an interdependency of said at least one interdependent pair of said plurality of said objective metric model units.

16. (Original) The method for providing a scalable objective metric for evaluating video quality of a video image as claimed in Claim 14 wherein the step of determining said scalable objective metric from said plurality of said objective metric figures of merit comprises the step of:

determining said scalable objective metric from a correlation factor derived using a neural network algorithm that employs both objective quality sources and subjective quality sources.

17. (Original) The method for providing a scalable objective metric for evaluating video quality of a video image as claimed in Claim 14 further comprising the steps of:

assigning weight values to each of said plurality of objective metric figures of merit by using a correlation factor, $r(i)$, for each of a plurality of non-interdependent objective metric figures of merit, where each correlation factor, $r(i)$, for an objective metric figure of merit represents how well the objective metric figure of merit evaluates video image characteristics.

18. (Original) The method for providing a scalable objective metric for evaluating video quality of a video image as claimed in Claim 14 wherein said plurality of objective metric model units comprises at least one objective metric model unit for a desirable video image feature and at least one objective metric model unit for an undesirable video image feature.

19. (Original) The method for providing a scalable objective metric for evaluating video quality of a video image as claimed in Claim 14 further comprising the steps of:

receiving in said objective metric controller new values of said plurality of objective metric figures of merit from said plurality of objective metric model units as said plurality of objective metric model units receive new video images; and

continually determining a new value of said scalable objective metric from said new values of said plurality of objective metric figures of merit.

20. (Original) The method for providing a scalable objective metric for evaluating video quality of a video image as claimed in Claim 14 further comprising the steps of:

determining a weight value, $w(i)$, for each of said plurality of objective metric figures of merit;

keeping said weight values constant; and

calculating said scalable objective metric using said constant weight values.

21. (Original) A method for providing a scalable objective metric for evaluating video quality of a video image comprising the steps of:

receiving in an objective metric controller a plurality of objective metric figures of merit from a plurality of objective metric model units wherein each of said plurality of objective metric model units is independent; and

determining said scalable objective metric from said plurality of said objective metric figures of merit from a correlation factor derived using a neural network algorithm that employs both objective quality sources and subjective quality sources.